

AMENDMENTS TO THE SPECIFICATION

Please amend the Specification as identified below.

On page 5, line 19 to page 6, line 13:

In addition, a surge protector according to the invention includes: a column-shaped insulating member having a conductive film divided by a discharge gap interposed in an intermediate of a peripheral surface; a pair of main discharge electrode members opposite to each other on both ends of the insulating member to come in contact with the conductive film; and an insulating tube which is fitted to the pair of main discharge electrode members opposite to each other to seal both the insulating member and sealing gas inside thereof. In this case, the main discharge electrode members include peripheral portions being attached to the end faces of the insulating tube by ~~brazing~~blazing filler metal, and protrusive supporting portions protruding toward an inside and an axial direction of the insulating tube and supporting the insulating member in the radial inner surface thereof. Furthermore, oxide films are formed on main discharge surfaces of the protrusive supporting portions of the pair of main discharge electrode members, which are oppositely disposed from each other, by performing an oxidation treatment, respectively.

On page 11, lines 1-12:

As shown in Figs. 2A and 2B, each of the main discharge electrode members 5 includes a rectangular peripheral portions 5A, which are attached to the end face of the cylindrical ceramic members 7 by ~~brazing~~blazing filler metal 8 and has an aspect ratio smaller than 1. Protrusive supporting portions 9, which can be disposed on the cylindrical ceramic members 7 to protrude in an axial direction and support the column-shaped ceramic member 4. Furthermore, each of the main discharge electrode members has a central area 5B at a position thereon, which is surrounded by the protrusive supporting portion 9 and faces the end face of the column-shaped ceramic member 4.

On page 12, line 22 to page 13, line 1:

For example, metallization layers, which consisted of a molybdenum (Mo) - tungsten (W) layer and a nickel layer, respectively, are formed on both end faces of the cylindrical ceramic members 7 to improve the wettability of the ~~brazing~~blazing filler metal 8 against the end faces.

On page 13, lines 2-10:

Furthermore, the column-shaped ceramic member 4 can be placed on the central area of one main discharge electrode member 5 so that the radial inner surface of the protrusive supporting portions and the end of the column-shaped ceramic member 4 come in contact with each other. In addition, the cylindrical ceramic member 7 is placed on the other main discharge electrode member 5 in a state in which the ~~brazing~~blazing filler metal 8 is interposed between the peripheral portion 5A and the end face of the cylindrical ceramic member 7.

On page 13, lines 11-18:

Then, the main discharge members 5 are placed on the column-shaped ceramic member so that the upper portion of the column-shaped ceramic member 4 faces the central area 5B, and thus the radial inner surface and the column-shaped ceramic members 4 come in contact with each other. The ~~brazing~~blazing filler metal 8 is interposed between the peripheral portion 5A and the end face of the cylindrical ceramic member 7.

On page 13, line 19 to page 14, line 1:

When the assembly body composed of the components is in a temporary assembly state as described above, the assembly body is brought to a vacuum state and then is heated in the sealing gas atmosphere until the ~~brazing~~blazing filler metal 8 is melted. In this case, since the ~~brazing~~blazing filler metal 8 is melted, the column-shaped ceramic member 4 is sealed. After that, the surge protector 1 is manufactured by rapidly cooling the assembly body.

In the previous embodiment, the protrusive supporting portions 24 are integrally formed with the terminal electrode member 22. However, in a surge protector 30 according to this embodiment, each of main discharge electrode members 31 includes a flat terminal electrode member 32 and a cap-shaped electrode 23, as shown in Fig. 5A[[5B]].

In addition, ~~brazing~~brazing filler metal 33 is coated on the inner surfaces of the pair of terminal electrode members 32, which face each other.

As shown in Fig. 5B, the brazing filler metal 33 includes a filling portion 35 for plugging gaps formed on the contact surfaces between the pair of terminal electrode members 32 and the cap-shaped electrodes 23, and a holding portion 36 for holding the outer peripheral surfaces of the cap-shaped electrodes 23 on outer sides of the cap-shaped electrodes 23.

In addition, an amount of ~~brazing~~brazing filler metal 33 enough to form the holding portion 36 is coated on one surface of one terminal electrode member 32, and the column-shaped ceramic member 4 engaged with the cap-shaped electrodes 23 is placed on the central area of the one terminal electrode member 32 so that the one terminal electrode member 32 and the cap-shaped electrode 23 come in contact with each other. Next, the cylindrical ceramic members 7 are placed on the one terminal electrode member 32 so that one end face of the cylindrical ceramic members 7 comes in contact with the ~~brazing~~brazing filler metal 33.

After that, the other terminal electrode member 32, on which the ~~brazing~~^{brazing} filler metal 33 is coated, is placed on the other end face of the cylindrical ceramic member 7, and thus temporary assembly is completed.

A sealing process is described below. When the above assembly body in a temporary assembly state as described above is heated in the Ar atmosphere, the brazing filler metal 33 is melted and thus the terminal electrode members 32 and the cap-shaped electrode members 23 come in close contact with each other, respectively. In this case, the filling portions 35 of the brazing filler metal 33 plug the gaps between the cap-shaped electrodes 23 and the terminal electrode members 32. In addition, the outer sides of the cap-shaped electrodes 23 are buried and held in the holding portions 36 is formed by the surface tension of the brazing filler metal 33.

Furthermore, in the present embodiment, the holding portions 36 and the filling portions 35 are made of same material as the brazingblazing filler metal 33. However, the filling portions 35 may be made of material different from the brazingblazing filler metal 33, and may be a conductive adhesive (for example, active silver-alloy brazingblazing) capable of attaching the oxide film 23B and the terminal electrode member 32. In this way, the cap-shaped electrode 23 and the terminal electrode member 32 are attached to each other, and it is possible to obtain more sufficient ohmic contact between the main discharge electrode members 31 and conductive film 3. Accordingly, electrical characteristic of the surge protector 30 such as discharge starting voltage is stabilized.

In addition, similar to the filling portions 35, the holding portions 36 may also be made of material different from the brazing~~brazing~~ filler metal 33, and may be, for example, glass material having low wettability against the brazing~~brazing~~ filler metal or active silver-alloy brazing~~brazing~~. In this way, the column-shaped ceramic member 4 is more reliably fixed on the central area of the terminal electrode member 32 or in the vicinity thereof.

On page 27, lines 7-12:

In addition, each of the metallization layers, which are formed on both end faces of the cylindrical ceramic member 7, may be made of Ag (silver), Cu (copper), or Au (gold). Furthermore, the cylindrical ceramic member may be sealed by means of only active metal brazing~~blazing~~ not using the metallization layers.